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Substitute for form 1449B/PTO

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

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Sheet **Page 1** of **10**

## **Complete if Known**

|                        |                 |
|------------------------|-----------------|
| Application Number     | To be assigned  |
| Filing Date            | Herewith        |
| First Named Inventor   | Cech, Thomas R. |
| Group Art Unit         | To Be Assigned  |
| Examiner Name          | To Be Assigned  |
| Attorney Docket Number | 015389-002970US |

11002 U.S. PTO  
 10/05/03  
 015389-002970US

## **U.S. PATENT DOCUMENTS**

| Examiner Initials * | Cite No. <sup>1</sup> | U.S. Patent Document |                                   | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|---------------------|-----------------------|----------------------|-----------------------------------|---|--|---|
|                     |                       | Number               | Kind Code <sup>2</sup> (if known) |   |  |   |
| <i>dw</i>           | A                     | 3,817,837            |                                   | Tanenholtz <i>et al.</i>                        | 06-18-74   |   |
| <i>dw</i>           | B                     | 3,850,752            |                                   | Schuurs <i>et al.</i>                           | 11-26-74   |   |
| <i>dw</i>           | C                     | 3,939,350            |                                   | Kronick <i>et al.</i>                           | 02-17-76   |   |
| <i>dw</i>           | D                     | 3,996,345            |                                   | Ullman <i>et al.</i>                            | 12-01-76   |   |
| <i>dw</i>           | E                     | 4,275,149            |                                   | Litman <i>et al.</i>                            | 06-23-81   |   |
| <i>dw</i>           | F                     | 4,277,437            |                                   | Maggio  | 07-07-81   |   |
| <i>dw</i>           | G                     | 4,366,241            |                                   | Tom <i>et al.</i>                               | 12-28-82   |   |
| <i>dw</i>           | H                     | 4,683,195            |                                   | Mullis <i>et al.</i>                            | 07-28-87   |   |
| <i>dw</i>           | I                     | 4,683,202            |                                   | Mullis  | 07-28-87   |   |
| <i>dw</i>           | J                     | 4,816,567            |                                   | Cabilly <i>et al.</i>                           | 03-28-89   |   |
| <i>dw</i>           | K                     | 4,965,188            |                                   | Mullis <i>et al.</i>                            | 10-23-90   |   |
| <i>dw</i>           | L                     | 5,489,508            |                                   | West <i>et al.</i>                              | 02-06-96   |   |
| <i>dw</i>           | M                     | 5,583,016            |                                   | Villeponteau <i>et al.</i>                      | 12-10-96   |   |
| <i>dw</i>           | N                     | 5,747,317            |                                   | Cao   | 05-05-98   |   |
| <i>dw</i>           | O                     | 5,770,422            |                                   | Collins   | 06-23-98   |   |
| <i>dw</i>           | P                     | 6,093,809            |                                   | Cech, <i>et al.</i>                             | 07/25/00   |   |
| <i>dw</i>           | Q                     | 6,258,535            | B1                                | Villeponteau <i>et al.</i>                      | 07-10-01   |   |
| <i>dw</i>           | R                     | 6,261,556            | B1                                | Weinrich <i>et al.</i>                          | 07-17-01   |   |
| <i>dw</i>           | S                     | 6,261,836            | B1                                | Cech <i>et al.</i>                              | 07-17-01   |   |

## **FOREIGN PATENT DOCUMENTS**

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|                     |                       | Office <sup>3</sup>     | Number <sup>4</sup> | Kind Code <sup>5</sup> (if known) |   |  |   |                |
| <i>dw</i>           | T                     | JP                      | 09154575-A          |                                   |   | 06-17-97   |   |                |
| <i>dw</i>           | U                     | PCT                     | WO 93/23572         |                                   |   | 11/93  |   |                |
| <i>dw</i>           | V                     | PCT                     | WO 95/13382         |                                   |   | 5/95   |   |                |
| <i>dw</i>           | W                     | PCT                     | WO 96/01835         |                                   |   | 01-25-96   |   |                |
| <i>dw</i>           | X                     | PCT                     | WO 96/12811         |                                   |   | 05-02-96   |   |                |
| <i>dw</i>           | Y                     | PCT                     | WO 96/19580         |                                   |   | 06-27-96   |   |                |
| <i>dw</i>           | Z                     | PCT                     | WO 96/40868         |                                   |   | 12-19-96   |   |                |
| <i>dw</i>           | AA                    | PCT                     | WO 98/01542         |                                   |   | 01-15-98   |   |                |
| <i>dw</i>           | AB                    | PCT                     | WO 98/01543         |                                   |   | 01-15-98   |   |                |
| <i>dw</i>           | AC                    | PCT                     | WO 98/07838         |                                   |   | 03-05-98   |   |                |
| <i>dw</i>           | AD                    | PCT                     | WO 98/08938         |                                   |   | 02-26-98   |   |                |

Examiner Signature

*M. W. W. W.*


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| Sheet  |  | Page 2 | of | 10                       | Application Number<br>To be assigned      |
|  |  |        |    |                          | Filing Date<br>Herewith                   |
|  |  |        |    |                          | First Named Inventor<br>Cech, Thomas R.   |
|  |  |        |    |                          | Group Art Unit<br>To Be Assigned          |
|  |  |        |    |                          | Examiner Name<br>To Be Assigned           |
|  |  |        |    |                          | Attorney Docket Number<br>015389-002970US |

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|                          |                       | Office <sup>3</sup>     | Number <sup>4</sup> | Kind Code <sup>5</sup> (if known) |   |  |   |                |
| dw                       | AE                    | PCT                     | WO 98/21343         |                                   |   | 05-22-98   |   |                |
| dw                       | AF                    | PCT                     | WO 98/23759         |                                   |   | 06-98  |   |                |
| dw                       | AG                    | PCT                     | WO 98/37181         |                                   |   | 08-27-98   |   |                |
| dw                       | AH                    | PCT                     | WO 98/45450         |                                   |   | 10-15-98   |   |                |
| dw                       | AI                    | PCT                     | WO98/59040          |                                   |   | 12-30-98   |   |                |
| dw                       | AJ                    | PCT                     | WO99/01560          |                                   |   | 01-14-99   |   |                |

| OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS |                       |   |                |
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| dw   | AK                    | 1994 Genome Issue of <i>Science</i> (265:1981f)   |                |
| dw   | AL                    | Anderson and Young, "Quantitative Filter Hybridization" in <i>Nucleic Acid Hybridization</i> pp73-111 (1985)  |                |
| dw   | AM                    | Ausubel <i>et al.</i> , <i>Current Protocols in Molecular Biology</i> , John Wiley & Sons, New York NY (1989)   |                |
| dw   | AN                    | Autexier <i>et al.</i> , "Reconstitution of human telomerase activity and identification of a minimal functional region of the human telomerase RNA," (1996) <i>EMBO J.</i> 15:5928   |                |
| dw   | AO                    | Autexier, C. <i>et al.</i> , "Telomerase and cancer: revisiting the telomere hypothesis," <i>Trends in Biochemical Sciences</i> , 10 (21): 387-391 (1996).  |                |
| dw   | AP                    | Auxier and Greider, "Functional reconstitution of wild-type and mutant <i>Tetrahymena</i> telomerase," (1994) <i>Genes Develop.</i> , 8:563   |                |
| dw   | AQ                    | Avilion, A., "Characterization and expression of human telomerase," <i>Dissertation Abstracts International</i> , 56 (11) 5930-B (1996).  |                |
| dw   | AR                    | Barinaga, M., "The Telomerase Picture Fills In," <i>Science</i> 276:528-529 (1997).   |                |
| dw   | AS                    | Berger and Kimmel, <i>Guide to Molecular Cloning Techniques</i> , Meth. Enzymol., vol. 152, Academic Press, San Diego CA (1987)   |                |

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|  |        | Application Number       | To be assigned  |                        |                 |
|  |        | Filing Date              | Herewith        |                        |                 |
|  |        | First Named Inventor     | Cech, Thomas R. |                        |                 |
|  |        | Group Art Unit           | To Be Assigned  |                        |                 |
|  |        | Examiner Name            | To Be Assigned  |                        |                 |
| Sheet  | Page 3 | of                       | 10              | Attorney Docket Number | 015389-002970US |

| OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS |                       |   |                |
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| Examiner Initials *                                | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T <sup>2</sup> |
| <i>dm</i>  | AT                    | Biessmann et al., "Addition of Telomere-Associated HeT DNA Sequences "Heals" Broken Chromosome Ends in Drosophila," Cell 61:663 [1990].   |                |
| <i>dm</i>  | AU                    | Bitter et al., "Expression and secretion vectors for yeast," Meth Enzymol., (1987) 153:516  |                |
| <i>dm</i>  | AV                    | Blackburn and Chiou, "Non-nucleosomal packaging of a tandemly repeated DNA sequence at termini of extrachromosomal DNA coding for rRNA in Tetrahymena," (1981) Proc. Natl. Acad. Sci., 78:2263  |                |
| <i>dm</i>  | AW                    | Blackburn and Gall, "A tandemly repeated sequence at the termini of the extrachromosomal ribosomal RNA genes in Tetrahymena," (1978) J. Mol. Biol., 120:33  |                |
| <i>dm</i>  | AX                    | Blackburn, "Telomerases," (1992) Ann. Rev. Biochem., 61:113   |                |
| <i>dm</i>  | AY                    | Bodnar et al., "Extension of Life-Span by Introduction of Telomerase into Normal Human Cells," (1998) Science, 279:349  |                |
| <i>dm</i>  | AZ                    | Bradford, "A Rapid and Sensitive method for the Quantitation of Microgram Quantities of Protein Utilizing the Principle of Protein-Dye Binding," (1976) Anal. Biochem., 72:248  |                |
| <i>aw</i>  | BA                    | Braunstein et al., "Transcriptional silencing in yeast is associated with reduced nucleosome acetylation," (1993) Genes Develop., 7:592   |                |
| <i>aw</i>  | BB                    | Calvio et al., "Identification of hnRNP P2 as TLS/FUS using electrospray mass spectrometry," (1995) RNA, 1:724  |                |
| <i>dm</i>  | BC                    | Canuthers et al., "New chemical methods for synthesizing polynucleotides," (1980) Nucleic Acids Res. Symp. Ser., 215-223  |                |
| <i>dm</i>  | BD                    | Chan and Tye, "Organization of DNA sequences and replication origins at yeast telomeres," (1983) Cell, 33:563   |                |
| <i>dm</i>  | BE                    | Colbere-Garapin et al., "A new dominant hybrid selective marker for higher eukaryotic cells," (1981) J. Mol. Biol., 150:1   |                |
| <i>dm</i>  | BF                    | Cole et al., "The EBV-hybridoma technique and its application to human lung cancer," Monoclonal Antibodies and Cancer Therapy, Alan R. Liss Inc., New York NY 77-96 (1985)  |                |
| <i>dm</i>  | BG                    | Collins et al., "Purification of Tetrahymena telomerase and cloning of genes encoding the two protein components of the enzyme," (1995) Cell, 81:677  |                |
| <i>dm</i>  | BH                    | Collins, K., "Structure and Function of Telomerase," Curr. Op. Cell. Biol. 8:374-380 (1996).  |                |

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| Examiner Signature | <i>M. White</i> | Date Considered | 12/8/03 |
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| Sheet  | Page 4 | of | 10 |                          |                 |

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| dw   | BI                    | Conrad <i>et al.</i> , "RAP1 protein interacts with yeast telomers in vivo: Overproduction alters telomere structure and decreases chromosome stability," (1990) <i>Cell</i> , 63:739   |                |
| dw   | BJ                    | Coombs, <i>Dictionary of Biotechnology</i> , Stockton Press, New York NY (1994)   |                |
| dw   | BK                    | Cote <i>et al.</i> , "Generation of human monoclonal antibodies reactive with cellular antigens," (1983) <i>Proc. Natl. Acad. Sci.</i> , 80:2026  |                |
| dw   | BL                    | Counter <i>et al.</i> , "The catalytic subunit of yeast telomerase," (1997) <i>Proc. Natl. Acad. Sci.</i> , 94:9202   |                |
| dw   | BM                    | Creighton, <i>Proteins, Structures and Molecular Principles</i> , WH Freeman and Co, New York NY [1983].  |                |
| dw   | BN                    | Dieffenbach and Dveksler, <i>PCR Primer, a Laboratory Manual</i> , Cold Spring Harbor Press, Plainview NY (1995)  |                |
| dw   | BO                    | Duplaa <i>et al.</i> , "Quantitative analysis of polymerase chain reaction products using biotinylated dUTP incorporation," (1993) <i>Anal. Biochem.</i> , 212:229  |                |
| dw   | BP                    | Fang <i>et al.</i> , "Oxytricha telomere-binding protein: separable DNA-binding and dimerization domains of the $\alpha$ -subunit," <i>Genes Develop.</i> 7:870 (1993) and Gray <i>et al.</i> , (1991) <i>Cell</i> 67:807                                       |                |
| dw   | BQ                    | Feng <i>et al.</i> , "The RNA Component of Human Telomerase," (1995) <i>Science</i> , 269:1236  |                |
| dw   | BR                    | GenBank Accession No. AA281296  |                |
| dw   | BS                    | Genbank accession no. AA299878  |                |
| dw   | BT                    | Genbank accession no. AA311750  |                |
| dw   | BU                    | Gilley <i>et al.</i> , "Altering specific telomerase RNA template residues affects active site function," (1995) <i>Genes Develop.</i> , 9:2214   |                |
| dw   | BV                    | Gottschling and Cech, "Chromatin Structure of the Molecular Ends of Oxytricha Mononuclear DNA: Phased Nucleosomes and a Telomeric Complex," (1984) <i>Cell</i> , 38:501   |                |
| dw   | BW                    | Gottschling and Zakian, "Telomere proteins: specific recognition and protection of the natural termini of Oxytricha macronuclear DNA," (1986) <i>Cell</i> 47:195  |                |

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| <i>dw</i>  | BX                    | Grant <i>et al.</i> , Meth Enzymol., (1987) 153:516-544   |                |
| <i>dw</i>  | BY                    | Greenwood <i>et al.</i> , "Phylogenetic relationships within the class oligohymenophorea, phylum ciliophora, inferred from the complete small subunit rRNA gene sequences of <i>Colpidium campylum</i> , <i>Glaucoma chattoni</i> , and <i>Opisthionecta henneguyi</i> ," (1991) <i>J. Mol. Evol.</i> , 3:163 |                |
| <i>dw</i>  | BZ                    | Greider and Blackburn, "A telomeric sequence in the RNA of Tetrahymena telomerase required for telomere repeat synthesis," (1989) <i>Nature</i> , 337:331   |                |
| <i>dw</i>  | CA                    | Greider and Blackburn, "Identification of a specific telomere terminal transferase activity in Tetrahymena extracts," (1985) <i>Cell</i> , 43:405   |                |
| <i>dw</i>  | CB                    | Greider, "Telomerase is processive," (1991) <i>Mol. Cell. Biol.</i> , 11:4572   |                |
| <i>dw</i>  | CC                    | Greider, "Telomere Length Regulation," (1996) <i>Ann. Rev. Biochem.</i> , 65:337  |                |
| <i>dw</i>  | CD                    | Hampton <i>et al.</i> , <i>Serological Methods a Laboratory Manual</i> , APS Press, St Paul MN (1990)   |                |
| <i>dw</i>  | CE                    | Harrington <i>et al.</i> , "A Mammalian Telomerase-Associated Protein," (1997) <i>Science</i> , 275:973   |                |
| <i>dw</i>  | CF                    | Harrington <i>et al.</i> , "Human telomerase contains evolutionarily conserved catalytic and structural subunits," (1997) <i>Genes Dev.</i> , 11:3109   |                |
| <i>dw</i>  | CG                    | Hartman and Mulligan, "Two dominant-acting selectable markers for gene transfer studies in mammalian cells," (1988) <i>Proc. Natl. Acad. Sci.</i> , 85:8047   |                |
| <i>dw</i>  | CH                    | Henderson and Blackburn, "An overhanging 3' terminus is a conserved feature of telomeres," (1989) <i>Mol Cell. Biol.</i> , 9:345  |                |
| <i>dw</i>  | CI                    | Hillier, <i>et al.</i> , Direct Submission to GenBank, EST Database, Accession No. W70315, Available Oct. 17, 1996.   |                |
| <i>dw</i>  | CJ                    | Horn <i>et al.</i> , "Synthesis of oligonucleotides on cellulose. Part II: design and synthetic strategy to the synthesis of 22 oligodeoxynucleotides coding for gastric inhibitory polypeptide (GIP)," (1980) <i>Nucleic Acids Res. Symp. Ser.</i> , 225-232   |                |
| <i>dw</i>  | CK                    | Hudson <i>et al.</i> , "An STS-based map of the human genome," (1995) <i>Science</i> , 270:1945   |                |
| <i>dw</i>  | CL                    | Huse <i>et al.</i> , "Generation of a large combinatorial library of the immunoglobulin repertoire in phage lambda," (1989) <i>Science</i> , 246:1275   |                |

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| Examiner Signature | <i>M. Alveda</i> | Date Considered | 12/08/03 |
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|  |        |    |    | Group Art Unit           | To Be Assigned  |
|  |        |    |    | Examiner Name            | To Be Assigned  |
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| dmf  | CM                    | Kilian <i>et al.</i> , "Isolation of a candidate human telomerase catalytic subunit gene, which reveals complex splicing patterns in different cell types," (1997) <i>Hum. Mol. Genet.</i> , 6:2011   |                |
| dmf  | CN                    | Kipling and Cooke, "Hypervariable ultra-long telomeres in mice," (1990) <i>Nature</i> 347:400   |                |
| dmf  | CO                    | Klobutcher <i>et al.</i> , "All gene-sized DNA molecules in four species of hypotrichs have the same terminal sequence and an unusual 3' terminus," (1981) <i>Proc. Natl. Acad. Sci.</i> , 78:3015  |                |
| dmf  | CP                    | Koehler and Milstein, "Continuous cultures of fused cells secreting antibody of predefined specificity," (1975) <i>Nature</i> 256:495   |                |
| dmf  | CQ                    | Kosbor <i>et al.</i> , "The production of monoclonal antibodies from human lymphocytes," (1983) <i>Immunol. Today</i> 4:72  |                |
| dmf  | CR                    | Lamond and Sproat, (1994) "Isolation and Characterization of Ribonucleoprotein Complexes," pp103-140  |                |
| dmf  | CS                    | Lamond <i>et al.</i> , "Probing the structure and function of U2 snRNP with antisense oligonucleotides made of 2'-OME RNA," (1989) <i>Cell</i> , 58:383   |                |
| dmf  | CT                    | Lendvay <i>et al.</i> , "Senescence mutants of <i>Saccharomyces cerevisiae</i> with a defect in telomere replication identify three additional EST genes," (1996) <i>Genetics</i> , 144   |                |
| dmf  | CU                    | Lingler <i>et al.</i> , "Purification of telomerase from <i>Euplotes aedeolatus</i> : requirement of a primer 3' overhang," (1996) <i>Proc. Natl. Acad. Sci.</i> , 93:10712   |                |
| dmf  | CV                    | Lingler <i>et al.</i> , "Reverse transcriptase motifs in the catalytic subunit of telomerase," (1997) <i>Science</i> , 276:561  |                |
| dmf  | CW                    | Lingner <i>et al.</i> , "Telomerase RNAs of different ciliates have a common secondary structure and a permuted template," (1994) <i>Genes Develop.</i> , 8:1984  |                |
| dmf  | CX                    | Lingner <i>et al.</i> , "Telomerase and DNA End Replication: No Longer a Lagging Strand Problem?," (1995) <i>Science</i> 269:1533   |                |
| dmf  | CY                    | Lowy <i>et al.</i> , "Isolation of transforming DNA: Cloning the hamster apt gene," (1980) <i>Cell</i> , 22:817   |                |
| dmf  | CZ                    | Lundblad, V. <i>et al.</i> , "RNA-dependent polymerase motifs in EST1: tentative identification of a protein component of an essential yeast telomerase," <i>Cell</i> , 60 (5):29-30 (1990).  |                |
| dmf  | DA                    | Lustig and Petes, Identification of yeast mutants with altered telomere structure," (1986) <i>Proc. Natl. Acad. Sci.</i> , 83:1398  |                |

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| Examiner Signature | dmf arichler | Date Considered | 12/08/03 |
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| dw   | DB                    | Lustig, A., "The Identification of Telomerase Subunits: Catalysing Telomere Research," Trends Cell. Biol. 7:299-302 (1997).   |                |
| dw   | DC                    | Maddox <i>et al.</i> , "Elevated serum levels in human pregnancy of a molecule immunochemically similar to eosinophil granule major basic protein," (1983) J. Exp. Med., 158:1211   |                |
| dw   | DD                    | Makarov <i>et al.</i> , "Nucleosomal Organization of Telomere-Specific Chromatin in Rat," (1993) Cell, 73:775   |                |
| dw   | DE                    | McEachern and Blackburn, "runaway telomere elongation caused by telomerase RNA gene mutation," (1995) Nature, 376:403   |                |
| dw   | DF                    | Melby <i>et al.</i> , "Quantitative measurement of human cytokine gene expression by polymerase chain reaction," (1993) J. Immunol. Meth., 159:235  |                |
| dw   | DG                    | Merrifield, "Solid phase peptide synthesis. I. The synthesis of a tetrapeptide," (1963) J. Am. Chem. Soc., 85:2149  |                |
| dw   | DH                    | Meyerson <i>et al.</i> , "hEST2, the Putative Human Telomerase Catalytic Subunit Gene, Is Up-Regulated in Tumor Cells and during Immortalization," (1997) Cell, 90:785  |                |
| dw   | DI                    | Murray, In McGraw Hill Yearbook of Science and Technology, (1992) McGraw Hill, New York NY, pp 191-196  |                |
| dw   | DJ                    | Nakamura <i>et al.</i> , "Telomerase Catalytic Subunit Homologs from Fission Yeast and Human," (1997) Science, 277:955  |                |
| dw   | DK                    | Nakayama <i>et al.</i> , "Cloning of a Candidate cDNA Encoding a Proteinaceous Component of Mammalian Telomerase," Mol. Biol. Cell. Abstracts Supp. 7 p. 286a, .sctn. 1664 (1996).  |                |
| dw   | DL                    | Nakayama <i>et al.</i> , "TLP1: A Gene Encoding a Protein Component of Mammalian Telomerase Is a Novel Member of WD Repeats Family," (1997) Cell, 88:875  |                |
| dw   | DM                    | Nielsen <i>et al.</i> , (1993) "Peptide nucleic acids (PNAs): Potential antisense and anti-gene agents," Anticancer Drug Des., 8:53   |                |
| dw   | DN                    | Oka <i>et al.</i> , "Inverted terminal repeat sequence in the macronuclear DNA of <i>Stylonychia pustulata</i> ," (1980) Gene, 10:301   |                |
| dw   | DO                    | Olovnikov, "A theory of marginotomy: The incomplete copying of template margin in enzymic synthesis of polynucleotides and biological significance of the phenomenon," (1973) J. Theor. Biol., 41:181   |                |
| dw   | DP                    | Orlandi <i>et al.</i> , "Cloning immunoglobulin variable domains for expression by the polymerase chain reaction," (1989) Proc. Natl. Acad. Sci., 86:3833   |                |

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| JW   | DQ                    | Prescott, "The DNA of ciliated protozoa," (1994) <i>Microbiol. Rev.</i> , 58:233  |                |
| JW   | DR                    | Price, (1993) <i>Blood Rev.</i> , 7:127   |                |
| JW   | DS                    | Rhodes <i>et al.</i> , "Transformation of maize by electroporation of embryos," (1995) <i>Meth. Mol. Biol.</i> , 55:121   |                |
| JW   | DT                    | Roberge <i>et al.</i> , "A strategy for a convergent synthesis of N-linked glycopeptides on a solid support," (1995) <i>Science</i> , 269:202   |                |
| JW   | DU                    | Romero and Blackburn, "A conserved secondary structure for telomerase RNA, " (1991) <i>Cell</i> , 67:343  |                |
| JW   | DV                    | Sambrook <i>et al.</i> , <i>Molecular Cloning, A Laboratory Manual</i> , Cold Spring Harbor Press, Plainview NY (1989)  |                |
| JW   | DW                    | Sandell <i>et al.</i> , "Transcription of yeast telomere alleviates telomere position effect without affecting chromosome stability," (1994) <i>Proc. Natl. Acad. Sci.</i> , 91:12061   |                |
| JW   | DX                    | Sanger <i>et al.</i> , "DNA sequencing with chain-terminating inhibitors," <i>Proc. Natl. Acad. Sci.</i> , 74:5463 [1977].  |                |
| JW   | DY                    | Scharf <i>et al.</i> , "Heat stress promoters and transcription factors," (1994) <i>Result Probl. Cell Differ.</i> 20:125   |                |
| JW   | DZ                    | Shampay and Blackburn, "Generation of telomere-length heterogeneity in <i>Saccharomyces cerevisiae</i> ," (1988) <i>Proc. Natl. Acad. Sci.</i> , 85:534   |                |
| JW   | EA                    | Sheen and Levis, "Transposition of the LINE-like retrotransposon TART to <i>Drosophila</i> chromosome termini," (1994) <i>Proc. Natl. Acad. Sci.</i> , 91:12510   |                |
| JW   | EB                    | Singer and Gottschling, "TLC1: Template RNA Component of <i>Saccharomyces cerevisiae</i> Telomerase," (1994) <i>Science</i> 266:404   |                |
| JW   | EC                    | Singer, M., "Unusual Reverse Transcriptases," <i>J. Biol. Chem.</i> 270(42):24623-24626 (1995).   |                |
| JW   | ED                    | Starling <i>et al.</i> , "Extensive telomere repeat arrays in mouse are hypervariable," (1990) <i>Nucleic Acids Res.</i> , 18:6881  |                |
| JW   | EE                    | Swanton <i>et al.</i> , "Arrangement of Coding and Non-coding Sequences in the DNA Molecules Coding for rRNAs in <i>Oxytricha</i> sp.," (1980) <i>Chromosoma</i> 77:203   |                |

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| dm   | EF                    | Tommerup <i>et al.</i> , "Unusual chromatin in human telomeres," (1994) <i>Mol. Cell. Biol.</i> , 14:5777   |                |
| dm   | EG                    | Trask, "Fluorescence in situ hybridization: application in cytogenetics and gene mapping," (1991) <i>Trends Genet.</i> , 7:149  |                |
| dm   | EH                    | Verma <i>et al.</i> , "Human Chromosomes: A Manual of Basic Techniques," Pergamon Press, New York NY (1988)   |                |
| dm   | EI                    | Watson, "Origin of concatemeric T7 DNA, " (1972) <i>Nature New Biol.</i> , 239:197  |                |
| dm   | EJ                    | Weinrich <i>et al.</i> , "Reconstitution of human telomerase with the template RNA component hTR and the catalytic protein subunit hTRT," (1997) <i>Nat. Genet.</i> , 17(4):498   |                |
| dm   | EK                    | Wellinger <i>et al.</i> , "Origin activation and formation of single-strand TG <sub>1-3</sub> tails occur sequentially in late S phase on a Yeast linear plasmid," (1993) <i>Mol. Cell. Biol.</i> , 13:4057   |                |
| dm   | EL                    | Wellinger <i>et al.</i> , "Saccharomyces Telomeres Acquire Single-Strand TG <sub>1-3</sub> Tails Late in S Phase," (1993) <i>Cell</i> 72:51   |                |
| dm   | EM                    | Whitehead Institute/MIT Center for Genome Research, Genetic Map of the Mouse, Database Release 10, April 28, 1995   |                |
| dm   | EN                    | Wigler <i>et al.</i> , "Transfer of purified herpes virus thymidine kinase gene to cultured mouse cells," (1977) <i>Cell</i> , 11:223   |                |
| dm   | EO                    | Wigler <i>et al.</i> , "Transformation of mammalian cells with an amplifiable dominant-acting gene," (1980) <i>Proc. Natl. Acad. Sci.</i> , 77:3567   |                |
| dm   | EP                    | Winter and Milstein, "Man-made antibodies," (1991) <i>Nature</i> , 349:293  |                |
| dm   | EQ                    | Wright <i>et al.</i> , "Saccharomyces telomeres assume a non-nucleosomal chromatin structure," (1992) <i>Genes Develop.</i> , 6:197   |                |
| dm   | ER                    | Yu <i>et al.</i> , "In vivo alteration of telomere sequences and senescence caused by mutated Tetrahymena telomerase RNAs," (1990) <i>Nature</i> , 344:126  |                |
| dm   | ES                    | Zahler and Prescott, "Telomere terminal transferase activity in the hypotrichous ciliate <i>Oxytricha nova</i> and a model for replication of the ends of linear DNA molecules," (1988) <i>Nucleic Acids Res.</i> , 16:6953                                     |                |
| dm   | ET                    | Zakian, Telomeres: Beginning to Understand the End," (1995) <i>Science</i> 270:1601   |                |

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| dw   | EU                       | Zaug et al., "Catalysis of RNA Cleavage by a Ribozyme Derived from the Group I Intron of Anabaena Pre-tRNA <sup>Leu</sup> ,"  |                |
| dw   | EV                       | Zaug, A. J. et al., "Method for determining RNA 3' ends and application to human telomerase RNA," Nucleic Acids Research, 24 (3): 532-533 (1996).   |                |

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